


Figure 1 (Prior Art)



Probability	Criteria	Probability
A	Remote	0.1
B	Unlikely	0.3
C	Likely	0.5
D	Highly Likely	0.7
E	Near Certainty	0.9

Figure 2 (Prior Art)

Impact ↑	Technical	Schedule	Cost
0	Does not apply	Does not apply	Does not apply
1	Minimal impact	Minimal impact	Minimal impact
2	Acceptable with some reduction in margin	Additional resources required, able to satisfy	<5
3	Acceptable with significant reduction in margin	Minor slip in key milestones; not able to meet need date	5-7%
4	Acceptable, no remaining margin	Major slip in key milestones or critical path impacted	7-10%
5	Unacceptable major program milestone	Can't achieve key milestone	> 10%

Figure 3 (Prior Art)

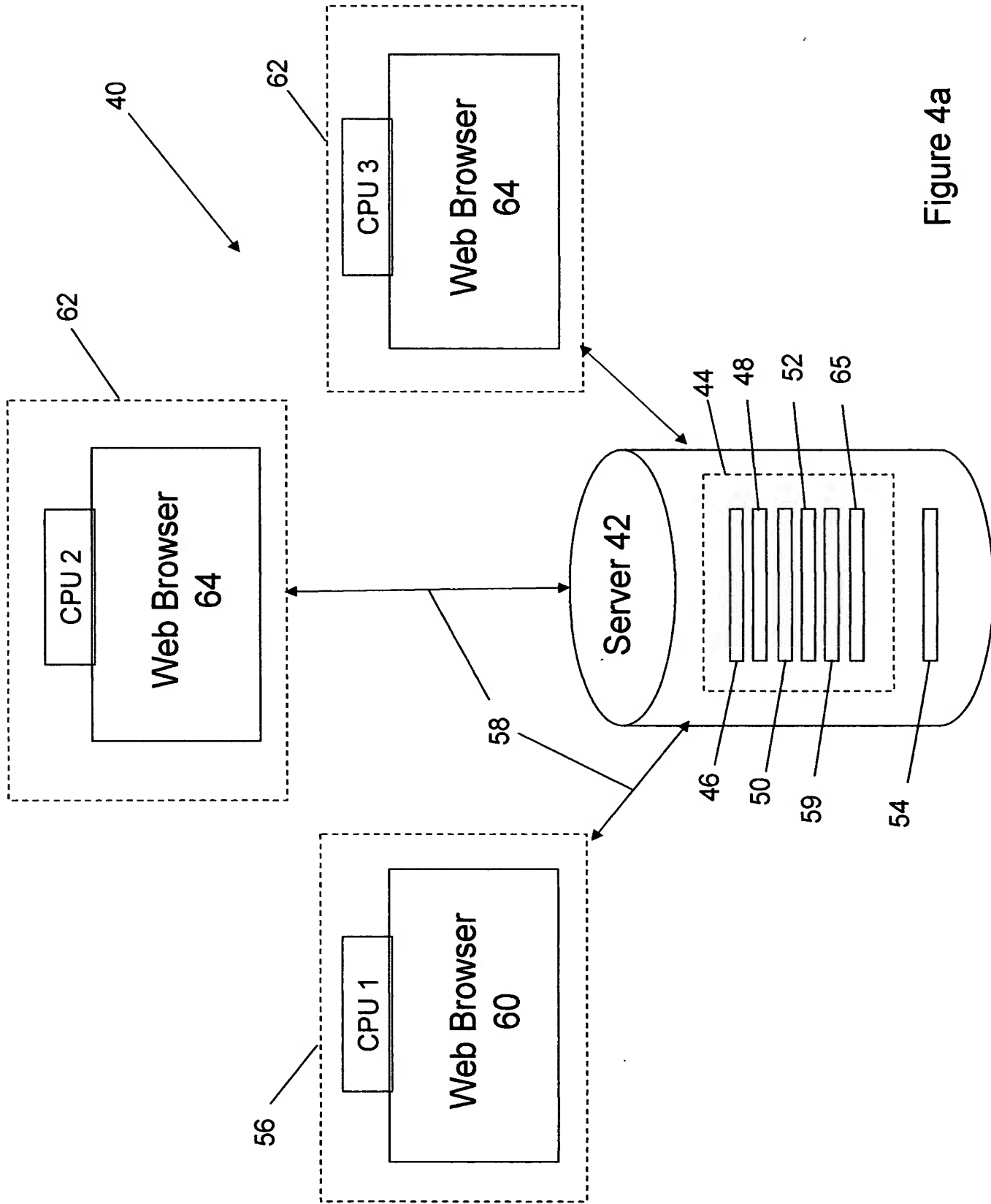


Figure 4a

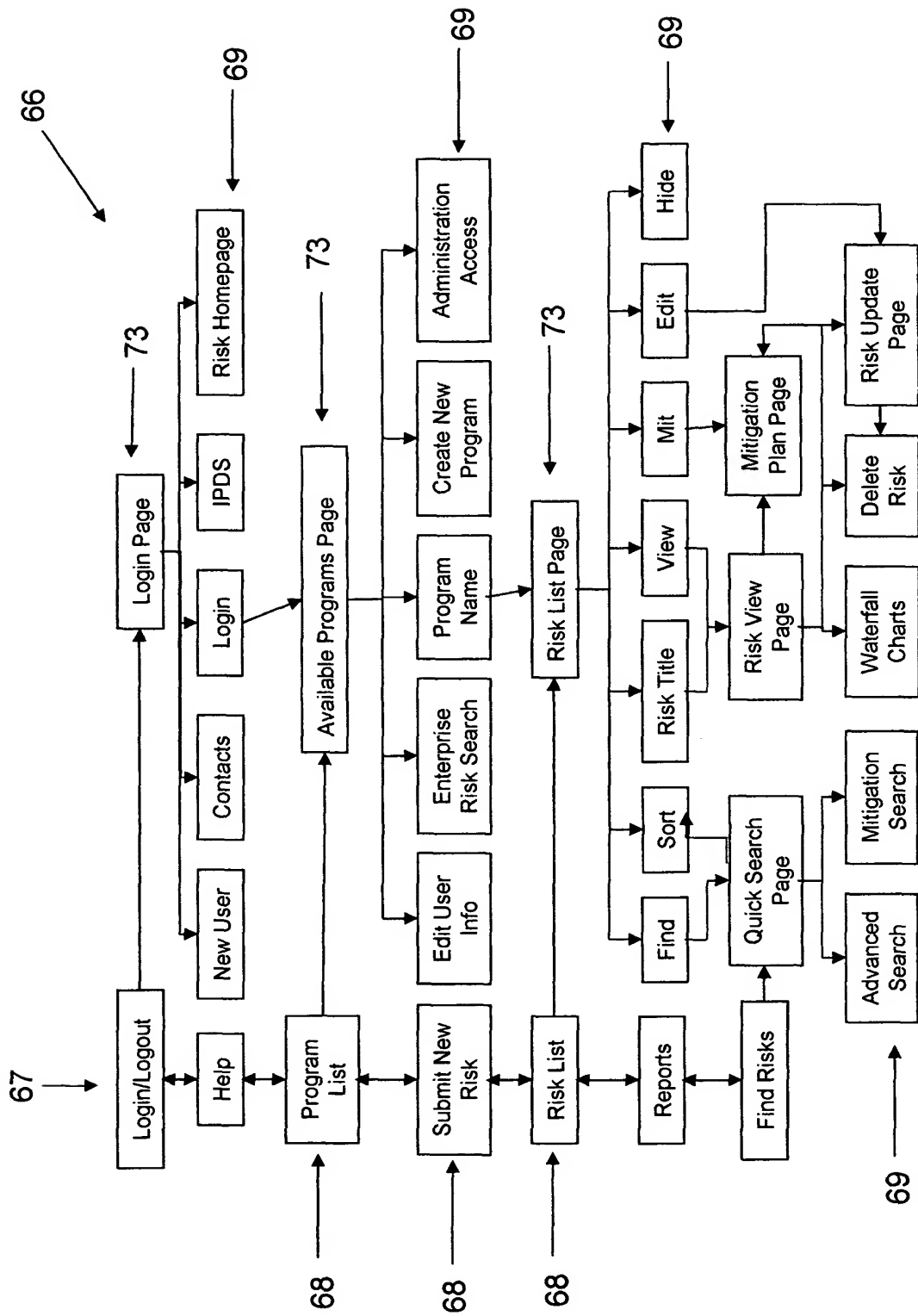


Figure 4b

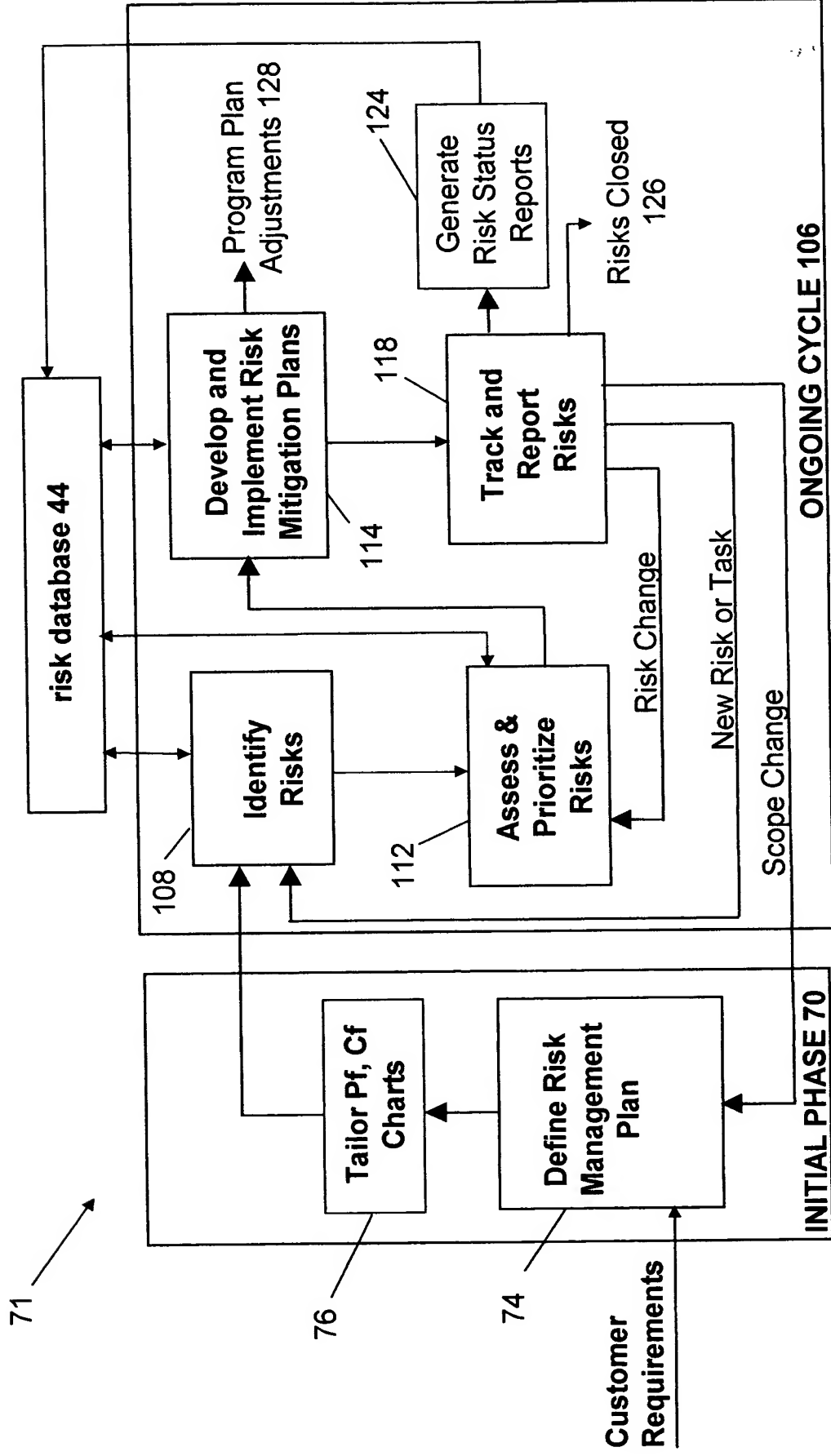


Figure 5

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Risk Register - Microsoft Internet Explorer

File Edit View Favorites Tools Help

PF Category #1 PF Category #2 PF Category #3 PF Category

TECHNOLOGY1 HARDWARE1 SOFTWARE1 REQUIREMENTS1

PF Category #6 PF Category #7 PF Category #8 PF Category

TESTING1

Submit New Categories

46

82

78

Rating	ASSEMBLY	ENGINEERING	EXPECTED LIFE LIMIT	HARDWARE1	MANUFACTURING	MANAGEMENT	HARDWARE2	MATERIALS	PLATFORM INST
.9	Clean room environment / complex manual assembly	New design, requiring state-of-the-art advance.	< 7 years	New design based on theoretical feasibility.	New manufacturing process needed. Lacking critical resource. Critical facility or vendor not available. Obsolete component.	Lacking critical resources to perform.	Theoretical hardware design based on advanced research.	New Component or Material. 12 to 18 month lead time, single source. Schedule time < lead time.	Factory installable with major platform modifications
.8	Controlled environment / Complex manual assembly		8 - 11 years	New design supported by some analysis				New Component or Material. 12 to 18 month lead time, multiple sources. Schedule time < lead time.	Factory installable with significant platform modifications

Local intranet

80

Figure 6

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94 96 92

Risk Register - Microsoft Internet Explorer

File Edit View Favorites Tools Help

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Performance (Tech) Impact		90	Cost Impact 86	98	Schedule Impact 88	Rating
Issues	Performance	Program Threat	Amount	Program Slip	Amount	
Key Rqmts not met; Inadequate	Program threat is certain	NRE>\$1 O/S>\$1 DTC>\$1	M K K	NA	> 5 Days	1.0
Unacceptable unmet rqmts	Major impact to cust/contrac	NRE>\$900 O/S>\$900 DTC>\$900	K K K	Major impact to customer or	> 4.5 Months	0.9
Degradation affecting	Affects other activities;	NRE>\$800 O/S>\$800 DTC>\$800	K K K	Critical path events are	> 4 Months	0.8
Significant chg from	Changes require revision	NRE>\$700 O/S>\$700 DTC>\$700	K K K	Intermediate milestones require	> 3.5 Months	0.7
Degraded	Significant rebudgeting	NRE>\$600 O/S>\$600 DTC>\$600	K K K	Significant program rescheduling	> 3 Months	0.6

Local intranet

Figure 7

Address

http://cae830.tuc.us.ray.com:10049/enterprise\_search\_form.cfm

Go

Links

Raytheon

Program List

Risk List

Reports

Using the Web

Submit New Risk

Find Risks

Logout/Logout

Risk Register

Help

Enterprise Search

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SEARCH BY:

Current or Historic

Risk Factor

Vendor

Component

Functional Area

Category

Risk Title Contains (case sensitive)

Risk Description Contains (case sensitive)

IPT

Actionee

Actionee/Team Lead/Submitter

Risk Number

Conduct Search

Go to Available Programs

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Risk Register is Raytheon Proprietary

Aug. 18, 2003

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Contact

Mike Peyton

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Figure 8a

## Enterprise Search Results

**Search Parameters: Current Risk Title contains - 'Battery' 7 Risks F und**

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Risk No	Program	Risk Title	Risk Factor
94	MK45 TDD	<u>Missile Battery Capacity</u>	0 <u>Transfer</u>
12	Tactical Tomahawk LRIP	<u>CMA Battery Delivery Schedule</u>	<u>Transfer</u>
5	Example Program	<u>Battery Power Duration</u>	.32 <u>Transfer</u>
1002	EKV	<u>KV Battery (TBP)</u>	.01 <u>Transfer</u>
1022	EKV	<u>CLOSED: Battery End-of-Life performance. (TBP)</u>	0 <u>Transfer</u>
105	Excalibur	<u>Thermal Battery Terminal Header Gun Hardening</u>	.28 <u>Transfer</u>

**Figure 8b**

46 →

78 →

82 →

80 →

RATING	TECHNOLOGY	HARDWARE	REQUIREMENTS	TESTING
0.9	Maximum technology / maximum capability.	Theoretical design based on advanced research.	Good probability of significant deficiencies in meeting requirements.	Technology not tested.
0.8	Theoretical technology	New theoretical design.	Good probability of some moderate deficiencies in meeting all requirements.	Approach not tested.
0.7	Newer technology.	All new design.	Moderate chance of moderate deficiencies in meeting all requirements.	Unimproved design has been tested.
0.6	Available technology Feasible by analogy.	New design to moderately improve existing design.	Moderate chance of minor requirement deficiencies.	Other analogous items have been tested.
0.5	Existing technology and feasibility studies.	Major design change.	Some chance of minor requirement deficiencies.	Old design has been tested.
0.4	Proven technology and approach. Feasibility analysis complete.	Redesign, significant modifications.	Slight chance of minor requirement deficiencies.	Similar designs and technology have been tested.
0.3	Proven technology and approach, used some by design agent.	Existing proven components, recombined or minor mods in function.	Should meet all requirements with little margin.	Limited testing done on existing components.

Figure 9

Rating	Performance (Tech) Impact 90		Cost Impact 86		Schedule Impact 88	
	Alternatives	Performance	Program Threat	Amount	Program Slip	AMOUNT*
1.0	No alternatives exist; Tech breakthrough reqd.	Key Rqmts not met; Inadequate	Program threat is certain	NRE>\$1 M Unit>\$500	Major prog. milestones moved; Prog threatened	>4.5 months
0.9	Significant Redesign reqd.	Unacceptable unmet rqmts	Major impact to cust/contract costs	NRE>\$900K Unit>\$450	Major impact to customer or contract plans	>4 months
0.8	Redesign or alternate reqd to achieve.	Degradation affecting usability	Affects other activities; Cost goal in jeopardy.	>\$800K Unit>\$400	Critical path events are threatened; entire schedule jeopardized.	>3.5 months
0.7	No adequate backup.	Significant chg from plan	Changes require revision w/cust.	NRE>\$700K Unit>\$350	Intermediate milestones require revision w/ cust.	>3 months
0.6	Inferior backup.	Degraded	Significant rebudgeting reqd.	NRE>\$600K Unit>\$300	Significant program rescheduling required	>2.5 months
0.5	Possible alternative exists.	Moderately Reduced	Some rebudgeting required.	NRE>\$500K Unit>\$250	Some program changes; critical path affected.	>2 months
0.4	An adequate alternative exists.	Slight rqmt reduction	Changes within mgmt reserve.	NRE>\$400K Unit>\$200	Internal milestones chgd. Schd slip w/ alternatives	>1.5 months
0.3	A few adequate alternatives exist	Minor rqmt deficiency	Minor within budgeted range.	NRE>\$300K Unit>\$150	Subsystem slip within IPT Requires workaround.	>1 month

Figure 10

**Search Parameters: Current  
Omitting Closed Risks  
Risks Found: 8**

Find / Sort more...

## Example Program Risks

## Admin

more...

<u>Risk #</u>	<u>Title</u>	<u>Actionee</u>	<u>Risk Factor</u>
C 2	<u>Untested Avionics Section</u>	Michael Peyton	.56 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 1	<u>Warhead Lethality</u>	Paul Grana	.42 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 3	<u>Missile Maneuverability</u>	John Strapac	.36 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 11	<u>Slow IMU Startup after storage</u>	Michael Peyton	.36 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 5	<u>Battery Power Duration</u>	Jerry Ellzey	.32 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 4	<u>Cold Soaked Missile Performance</u>	Rachel Darnell	.30 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 8	<u>HAI delivery of Launch Tube Assemblies</u>	Niccolo Garbarino	.14 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>
C 9	<u>3 to 6 words capturing the essence of the risk</u>	Jose Soto	.09 <a href="#">Edit</a> <a href="#">Mit</a> <a href="#">View</a> <a href="#">Hide</a>

## Figure 11

# Raytheon

[Raytheon home](#) | [Directories](#) | [Search](#) | [Using the Web](#)

Program List	Risk List
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### Risk List

## Reports

L

**Submit New!**

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## Find Risks

## Risk Register

**Help**

## Mitigation Search

**Description:**

Status:

Start Date (mm/dd/yyyy):

Original Planned Complete Date (mm/dd)

Planned Complete Date (mm/dd/yyyy):

Complete Date (mm/dd/yyyy):

From: [

From: [

From: [

From: [

1

1

1

1

### Find Mitigation Activities

**Risk Register is Raytheon Proprietary**

[ΔTop of page](#)

 Local intranet

**Figure 12a**

### Current Mitigation Plan

Num.	Activity	Pf	Cf	Plan Comp	Comp	Misc.
1	Selected avionics will be bench tested	5	8	02/16/2002	06/28/2002	IMP/S: 2-345 all info delete

#### Results:

All selected avionics modules passed the bench tests. We expected 95%.

#### Update Activities

2	Environmental tests conducted for those	4	8	11/08/2002	11/22/2002	IMP/S: 3-231 all info delete
---	---	---	---	------------	------------	---------------------------------

#### Results:

#### Update Activities

3	Those items that do not pass bench or	2	8	08/09/2003		Actionee: Rachel Darnell IMP/S: 4-111 all info delete
---	---------------------------------------	---	---	------------	--	---

Figure 12b

# Raytheon

**Raytheon home | Directories | Search** Using the Web

### Program List

## Risk List

## Reports

## Submit New Risk

## Find Risks

**Login/Logout**

## Risk Register

**Help**

## RRB Minutes Home

### Input New RRB Info

### Input New RRB Info

## Update RRB Minutes

**View RRB Report**

Date of RRB:

No RRBs have been submitted

Date of RRB:

No RRBs have been submitted

## Steps for Creating a RRB Minutes Report:

1. Click "Input New RRB Info" button
2. Submit General info from the meeting ("RRB Date" and "Risks Covered" are required)
3. Submit Minutes for each individual risk by clicking "Input/Update Minutes for Risks Covered" link on the "Update Risk Review Board General Info" page  
Note: you are automatically taken to the "Update Risk Review Board General Info" page when you Submit info on "Input Risk Review Board General Info" or you can get to the "Update Risk Review Board General Info" page by selecting a meeting date and clicking "Update/Add Minutes" button, if General meeting info was previously submitted.
4. Once all the RRB minutes info is submitted, return to the "RRB Minutes Home", select the meetings date under "View RRB report" and click the "Create Minutes Report"

**Note:** The report is generated in Microsoft Word and click the **Create Worded Report** button.

**Risk Register is Raytheon Proprietary**

**ΔTop of page**

## Conflict

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**Aug. 28, 2003**

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### Figure 13a

Minutes 1-X.doc - Microsoft Word

File Edit View Insert Format Tools Table Window Help

Type a question for help

100%

1 2 3 4 5

Program Risk Review Board

Meeting Minutes, 21 August 2003

The Risk Review Board Meeting for PROGRAM was conducted on Thursday, 21 August 2003 from 9:00 AM to 11:00 AM at the Raytheon Tucson facility. The meeting was conducted via teleconference with the available customer community. The agenda covered all high, moderate, new & closed risks.

1 Risk Lowered From Moderate to Low:  
Risk 5 – Risk 5 Title

2 Risks Closed:  
Risk 4 – Redesigning Something  
Risk 15 - Integration

2 New Risks Suggested:  
- New Risk One  
- New Risk Two

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The next Risk Review Board is scheduled for 18 September, 2003. The meeting agenda will include all high, moderate, new and closed risks.

Attendees:  
Customer Representatives: Rep1,  
Rep2

Raytheon: IPT Lead 1,  
IPT Lead 2,  
Chief Engineer

Risk Status

No. Title

The headings above show the title of the fields that are dumped into this report. This area is where the comments go that you submit via the web interface.

6 This Is Another Risk

IPT Lead 1

.48

Moderate

All this is formatted automatically via the web tool.

Figure 13b

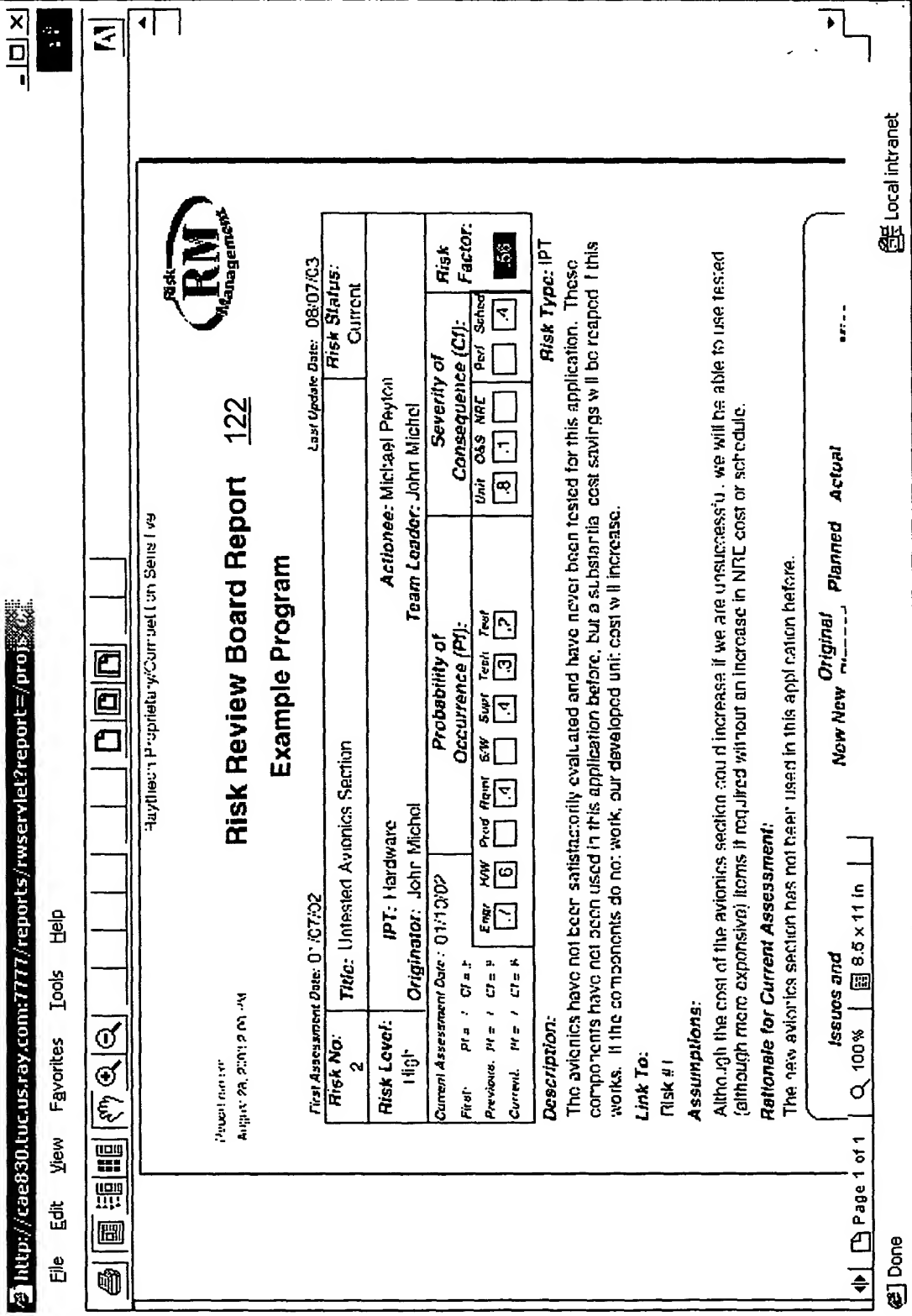


Figure 13c

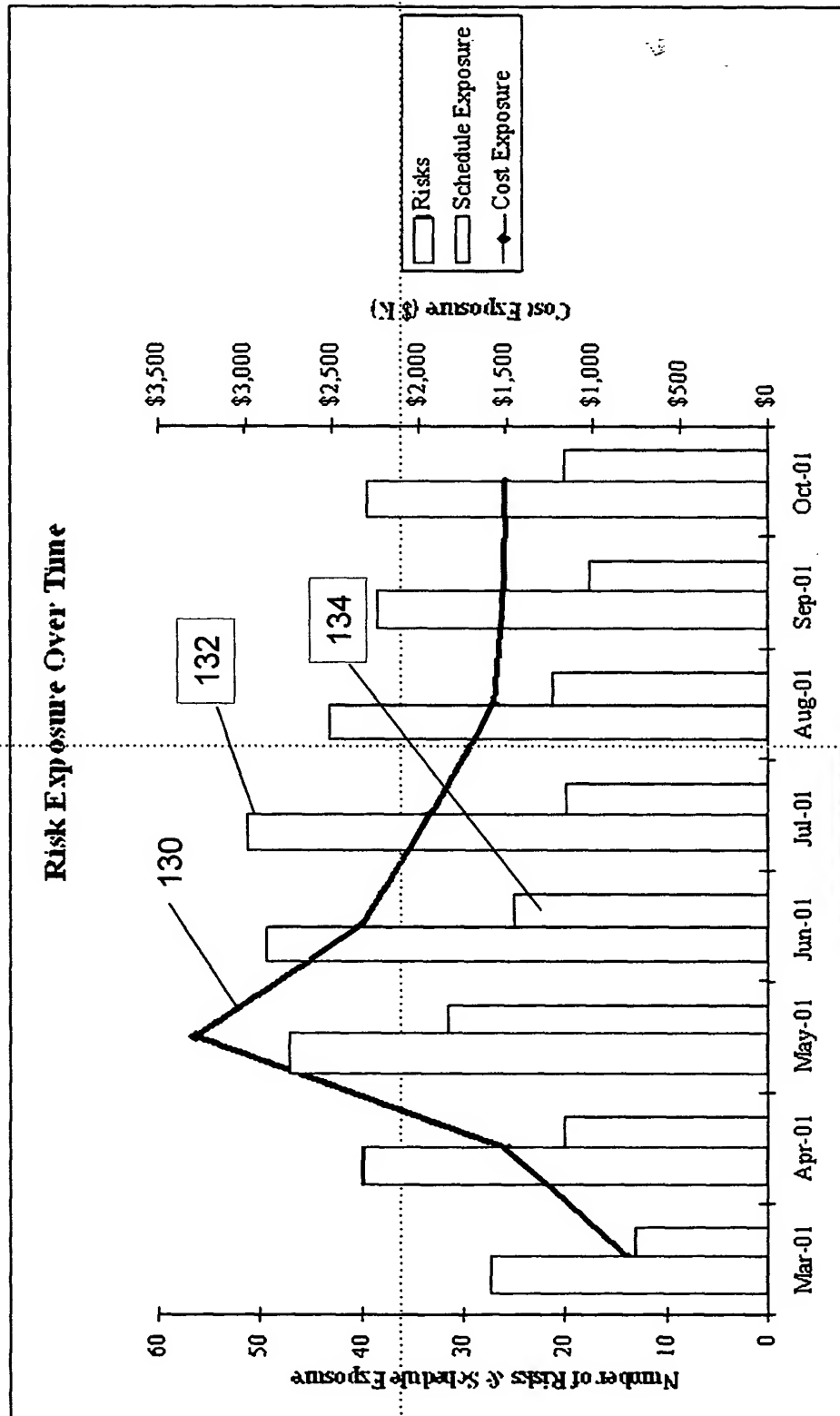


Figure 14